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THE ILLUSTRATED POULTRY RECORD

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JUNE, 1915.

VOLUME VII.

Edited by E. T. BROWN.



QUARTERLY

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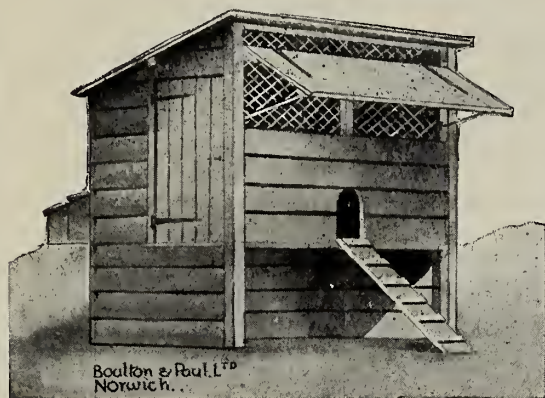
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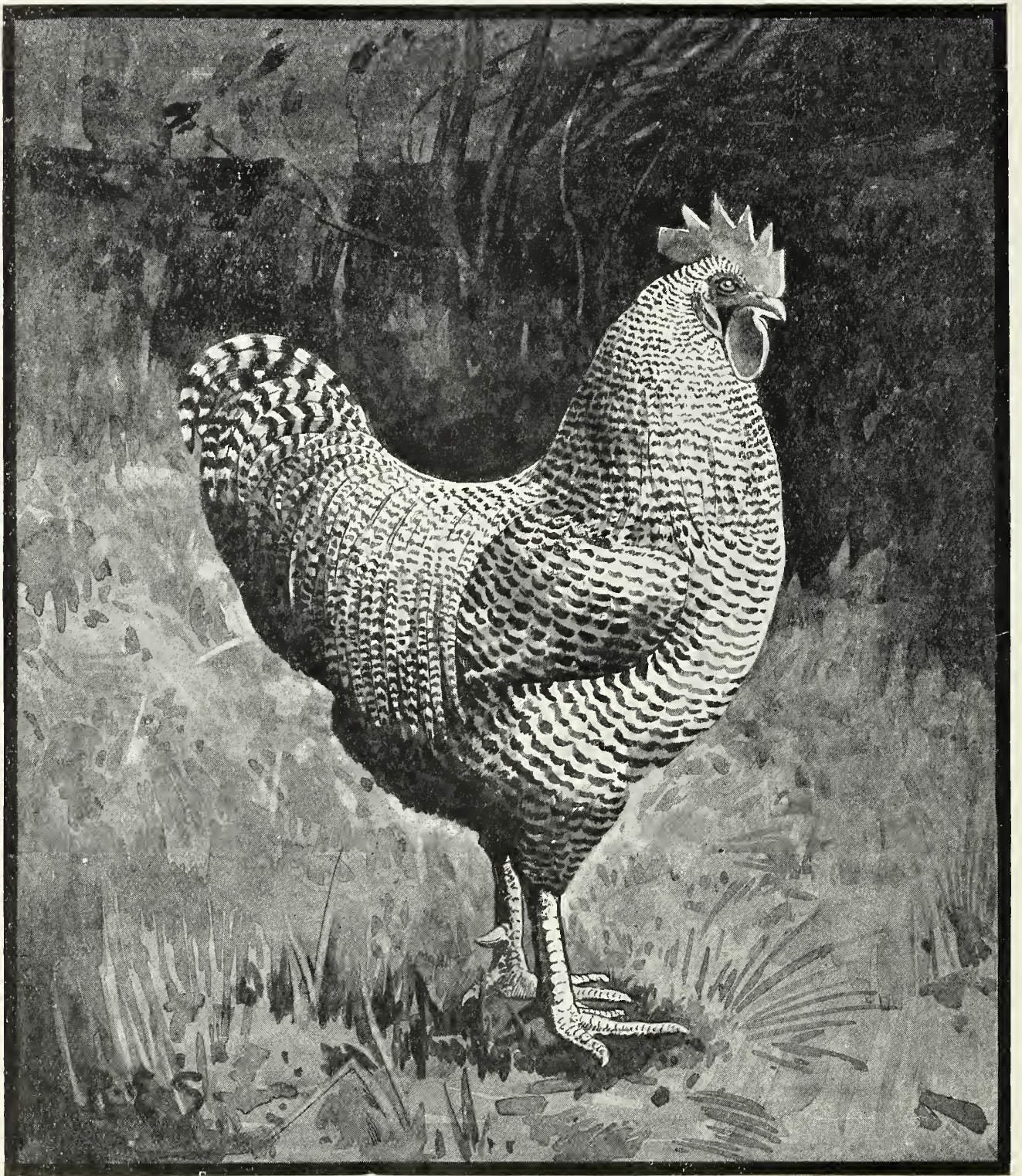
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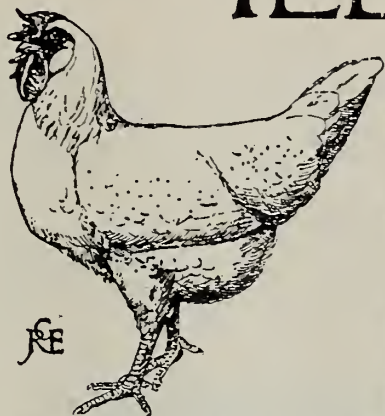
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A PLYMOUTH ROCK COCK.

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THE ILLUSTRATED POULTRY RECORD



Vol. VII.—No. 3.

June, 1915.

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AN EDITORIAL DIARY.

EDITORIAL NOTICES.

TUDOR HOUSE, TUDOR STREET, WHITEFRIARS,
LONDON, E.C.

The Editor will be glad to consider any MSS., photographs, or sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., photographs or sketches, and publication in the ILLUSTRATED POULTRY RECORD can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. All rights of reproduction and translation are reserved.

The Editor would like to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The ILLUSTRATED POULTRY RECORD is published on the 15th of March, June, September, and December. Should readers experience any difficulty in securing their copies promptly, they are requested to communicate immediately with the Editor.

The latest date for receiving advertisements is the 8th of the month.

The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser, he is requested to communicate at once with the Editor.

The Outlook.

With the developments which are taking place in connection with the operations of war, the seriousness of the conflict is evident upon all sides. It is influencing every branch of our national life. Upon such a topic we cannot dwell. Enough is it to say that the effect upon all sections of the community is great and will be still greater. Something of this nature is indicated in one of the articles appearing in the present issue. One fact is evident—namely, that we shall in the future be compelled to depend to a greater extent than ever upon home supplies. Whatever takes place, however great the sorrows which come upon us as a nation, that is undeniable. It is satisfactory to record that this has been recognised by the Board of Agriculture in various ways, some of which have been referred to in previous issues, and we hope that county authorities will be equally energetic. One most satisfactory feature is the increased attention which is given in the general Press to poultry questions. Two special cases may be named: First, the articles appearing in *Country Life* on the Flemish system of poultry-rearing, written by Madame Albert Jasper, a refugee in this country who has done a great deal in Belgium in connection with poultry. As these are still in progress, and have only partially developed, it is difficult to form any opinion as to the system advocated. That will come at a later stage. Second is the series which has been commenced in the *Weekly Dispatch* by Captain Pierson Webber. These are indications of what is taking place, and it is evident that the poultry industry is receiving a very considerable development. Whether that will be upon the lines indicated by Madame Jasper remains to be seen.

The Exhibition Side.

The branch of poultry-keeping which has suffered most and is suffering severely is that concerned with shows. So far as can be foretold at the present time this is likely to continue. The breeding of exhibition birds is to a large extent a luxury, and in these days luxuries are necessarily taboo to a great extent. Moreover, it is of no use breeding fancy poultry unless there are exhibitions at which these can be displayed and customers can be secured. Exhibitors at home and abroad who would have otherwise been willing to pay good prices for show birds are unable or unwilling to do so. The signs are that the number of exhibitions will be much less during the summer and coming winter than in the last twelve months. That cannot be avoided. Such as have given special attention to the utility side are feeling the pinch to a much lesser extent. It is, however, satisfactory that the great majority of fanciers do not look upon their poultry operations as a means of livelihood, but either as supplemental to other sources of income or as a recreation.

International Association.

It will be remembered that prior to the war an announcement was made of the First World's Poultry Congress to be held at The Hague, in 1916, upon the invitation of the Netherlands Government, for which preliminary arrangements were well advanced. Consequent upon the outbreak of war everything was necessarily postponed. Further, a circular has recently been issued to members of the International Association of Poultry Instructors and Investigators, announcing that operations are for the time being suspended. No other course could be adopted. There is practically no internationalism in these days. We can only hope for happier times when the association named, with its great possibilities, may once more seek to accomplish its objects.

County Statistics.

A very interesting and suggestive series of articles has recently appeared in the *Liverpool Daily Post and Mercury* dealing with the egg and poultry supplies of Lancashire, Cheshire, and North Wales. Striking facts are given as follows:

	Value of Eggs & Poultry Produced.	Value of Eggs & Poultry Consumed.
Lancashire	£256,117	£3,136,307
Cheshire	159,367	620,606
Anglesey	36,832	17,680
Carnarvon	42,367	85,060
Denbigh	64,656	86,877
Flint	31,202	52,347
Merioneth	27,343	37,036
Montgomery	26,573	57,561

From the above it will be seen that the net consumption over production in the eight counties named is £3,357,655 per annum, of which Lancashire represents £2,880,191 and Cheshire

£461,239. The estimate is made that the eggs consumed in these counties annually amounts to 51,700 tons and poultry 9,260 tons.

Dangerous Figures.

One of the serious aspects at the present time is giving rein to imagination without any basis of practical experience. Much of this is owing to an earnest desire for increasing the production of our own country, and in the majority of cases is honest. Such, however, does not make an enterprise successful. For instance, in a weekly paper whose name we are sure its modesty would desire us to hide, a correspondent has made the claim that 200 head of fowls can be maintained on an acre of land and would produce 36,000 eggs in the year, which is an average of 180 eggs per annum, stating that these are established facts, as that birds can be fed at a cost of 3s. per head per annum. Poultry-keeping can always be made profitable on paper. We are afraid that many people may be misled by statements of this nature.

The Late Mr. Thelford.

Death is very busy amongst every class of the community just now, and of late there has seemed to be an increasing mortality even amongst those who are not exposed to the dangers of war. Amongst the more prominent poultrymen who have passed away we have to record the death of Mr. T. Thelford, which took place suddenly on April 9. In addition to being secretary of the Poultry Club, Mr. Thelford acted in the same capacity for the great International Poultry Show held at the Crystal Palace, and in a multitude of other ways had shared in promoting the exhibition side of poultry-keeping. His genial personality and earnestness of purpose made him a host of friends. Mr. G. Tyrwhitt Drake has accepted once more, for the time being, the secretaryship of the Poultry Club thus made vacant.

Irish Production.

At a recent meeting the Right Hon. T. W. Russell, M.P., Vice-President of the Agricultural Department of Ireland, gave some interesting figures as to the relative production of various agricultural food supplies in that country. He showed that in 1914 the export of eggs and of poultry amounted to £4,455,000, and was in value nearly one-third the total exports of dairy, poultry, and pig produce. Eggs and poultry together were nearly equal to the exports of butter, and were greater than the exports of bacon and hams. In addition to the above would be the home consumption, and that the right hon. gentleman estimated at £1,332,000, making a gross total for egg and poultry produce in Ireland of £5,887,000 per annum, which is equal to 10.5 per cent. of the farmers' incomes of that country. This is a remarkable achievement. Twenty-five years ago it

is probable that the total production did not exceed £2,000,000 in value, and now it is nearly three times that amount. Mr. Russell, in addition, however, showed that it was capable of considerable increase, and his figures would indicate that there is at any rate £2,000,000 to £3,000,000 more which might be gained by Irish producers if they developed poultry within the capacity of the country.

Weight and Nature of Eggs.

In a bulletin by Mr. Horace Attwood, issued from the West Virginia University, some interesting statements are made. First, that during the

as to the greater vigour of chicks brought out from the early eggs in each season. If that be the case, then grain feeding would be desirable, by reason of the larger amount of phosphorus in that class of food. These are important points, though, of course, definite knowledge is still wanting.

Eggs for the Wounded.

We heartily congratulate the *Poultry World* and those who have shared in the project for supplying eggs to our wounded soldiers upon the great success achieved. Up to the time of writing nearly four million eggs have been



A BREEDING-PEN OF SCOTCH GREYS.

[Copyright.]

Scotch Greys are very popular across the Border, where they are highly esteemed both for flesh and egg-production.

spring, when hens are laying well and eggs are heavier, the dry matter of the yolk constitutes a greater percentage of the total weight than at other periods of the year when the fowls are less prolific. It is suggested that this may be an additional reason why early-hatched chickens are more vigorous than those brought out later, from the fact that the larger the yolk the greater amount of nutrition for the embryo. A second point is the presence of phosphorus in the eggs. Here the suggestion is made that in the autumn, at the time of and following the moult, phosphorus is stored in the hen's body, and the early-laid eggs have a greater amount of that element than those which are produced later. In this case also it is suggested that an explanation may be forthcoming

sent in. The work here represented must have been enormous, and the benefits to our gallant men great in the extreme. All over the country the scheme has been taken up with enthusiasm. Recently, in one district, where the local poultry society had undertaken this work, we saw some of even the smallest poultry-keepers in the district bringing in their half-dozen eggs each week, and larger producers their fifties. In many places ladies have thrown themselves into this movement with energy and judgment. Poultry-keepers have responded splendidly to the appeal made and have thus expressed their gratitude to those who undertook the foundation work, thus giving an opportunity which might otherwise have been lost.

Another Egg Train.

It is more than two years since the last expedition, to which we gave great prominence, visited North Wales. That and the one three years before were organised jointly by the National Poultry Organisation Society and the Agricultural Organisation Society. As the former is no longer in existence the last-named is left with a clear field, and we are glad to note that next month a similar expedition is to visit the counties of Dorset, Somerset, Devon, and Cornwall, in some of which the opportunities for development are great in the extreme. This train will be in charge of Mr. A. D. Allen, and it is satisfactory to note that the respective county education committees are co-operating, as well as the Great Western and London and South-Western Railway Companies. From the reports already received this will be upon similar lines to that in North Wales. To it we wish every success.

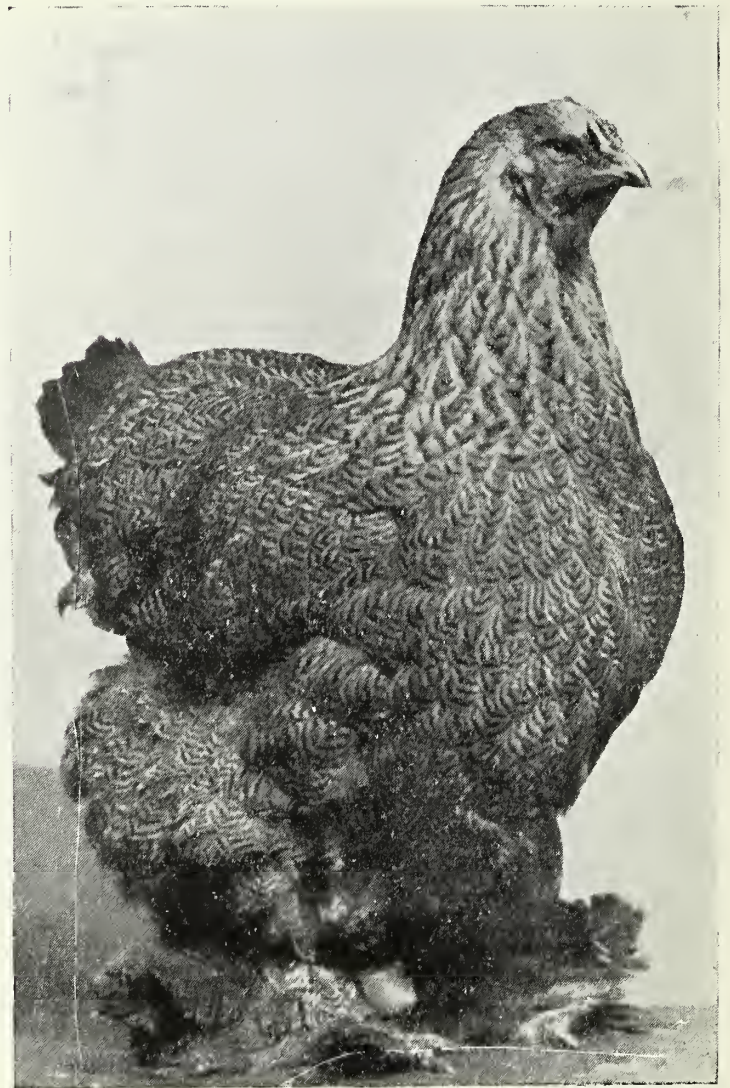
Exhibition versus Utility.

The old question has been raised in one of our contemporaries in this form: "Are exhibition birds useless as layers?" Upon this there are the usual differences of opinion, as there always will be. Such a problem cannot be solved by generalities, nor by limited experience over a short period, nor in relation alone to newer breeds. What we generally find is that when a breed is first taken up on Fancy lines, with a view to improvement, whether it be an evolution or an importation, it is not infrequently more productive than it was before. Whether that is due to more careful selection, to conditional influences, or to better feeding is unknown. It is usually the case that at this period the variations are considerable, as a result of which there is small check on functional activities. A few years, however, often alter the whole position. Continuous breeding on feather and other lines, together with ignoring of the productive qualities, more especially in respect to laying, tells its tale. Also there is a greater measure of close-breeding, which tends to reduction of constitutional vigour. We generally get what we strive for, and the exhibitor finds it more profitable to secure perfection externally than an increased number of eggs. All the arguments in the world do not alter such facts. They are within the range of positive knowledge. At first No! later Yes! is the true reply.

Why Not Duck Eggs?

That some breeds of ducks are exceptional layers is generally recognised, and that where there is a demand for their eggs at fair prices these birds are very profitable is undoubtedly the case. The question stated above was recently put to us. Cases were cited of what is being done in

New Zealand and Holland, where duck plants for egg-production alone are carried out extensively and successfully. Moreover, we have many instances within the United Kingdom where upon farms this species of poultry is kept, mainly Indian Runners, by reason of their abundant laying. Much more might be done in this way. There are many districts where the conditions are not altogether favourable for hens which would be excellent for ducks. On industrial lines, however, the main object has been breeding ducklings for meat. A further reason why the branch re-



[Copyright.]

A SPLENDID EXAMPLE OF A BRAHMA FOWL.

ferred to has not been regarded with favour is from the fact that in the best markets duck eggs are not regarded with the same favour as those from hens for table purposes, and do not command the same price as the latter when new-laid, being thought to be stronger and coarser in flavour. At the same time such is not true to the same extent in some of our industrial areas. Positive knowledge of cost and returns would be very valuable. Could not one of our college farms conduct an experiment in this direction?

WHAT OF THE FUTURE?

By EDWARD BROWN, F.L.S.



AMONG the few descriptions by correspondents of the battlefields in various parts of Europe we are struck by the fact that so little appears to have been seen. These men are away from the actual conflict, and they are able to obtain not much more than glimpses of what is taking place. We are no longer in the era when, owing to the limited area over which fighting takes place, the whole field can be surveyed. If such be true in that respect it is equally so with those who attempt to look into the future, to discern what is likely to be the conditions in the days to come, whether these be immediate or more remote. We are like men who stand upon the mountain tops peering into the distance, and amidst the smoke of battle see but dimly what is before. I am reminded of a time when, standing upon the summit of one of the Swiss mountains, we were enveloped in fog. For two or three minutes the clouds rolled away and we were able to see the landscape. Then once more we were shrouded in the dense mist.

PROFOUND CHANGES.

That the world will never be quite the same again must be evident to all who have thought about this conflict of nations. Changes will take place which some of us can never hope to see, and which will only be fully realised by those who are younger. Nor will these changes be restricted to any country, or even to any continent. As it is, the whole world is affected. There is no land from distant Cathay to California, from Norway to New Zealand, that is not feeling the strain, and realising to a greater or lesser extent something, at any rate, of the influence which the momentous struggle around is exerting. Upon the greater issues this is not the place to write, but in so far as the poultry industry is concerned we already have some premonition of other changes, from the fact that America has been sending for the first time considerable quantities of eggs to our shores, and has been increasing its supplies of poultry. Already proposals are being made to ship greater quantities to this country, and eggs especially, from Australia and New Zealand and South Africa. Probably to a large extent this is due to the higher prices which are prevailing here. Were it that in the Colonies named the number of people capable of producing food supplies were greater in relation to the actual opportunities presenting themselves, such trade would assume a high value. Unfortunately, however, Australia, New Zealand, South Africa, and even Canada are thinly populated, and poultry

cannot be maintained in great numbers unless they are looked after, so that the power of production is greatly limited. I do not profess to be in any sense a prophet, but it is desirable that everyone shall, as far as he is able, anticipate what is likely to take place prior to the resumption of peace, and also after that desirable time has arrived.

WHAT WE CAN SEE.

Within our immediate knowledge is a vision of what is taking place. The countries which are involved in this war, notably Russia, Austria-Hungary, Belgium, France, Italy, and Germany, are all seriously affected, so far as poultry and egg-production is concerned, by the war, and naturally are suffering greatly as a result. Of these Germany stands on one side, for, like the United Kingdom, it consumes much more than it produces, and its supplies from other countries are to a large extent cut off. With regard to Russia, I do not anticipate that there has been the slightest interference with its capacity for production, for two reasons, one of which is that the districts where poultry have been developed to the higher extent have not been touched by the fighting. The second is, that as this branch is mainly in the hands of peasants, whose number of fowls is comparatively limited, there can have been no serious interference in actual production, because the work would be in the hands mainly of women, or of those who are not called away to serve their country in the armies.

With respect to Germany it is difficult to obtain absolute information, but the fact that she is buying eggs and poultry wherever these can be obtained, would indicate that her supplies are very limited, and I am told that the reduction in the number of poultry kept is enormous, as might be expected owing to the scarcity of feeding stuffs and also to the need for meat. We may anticipate, therefore, that when the war is over Germany will buy to a greater extent than she has ever done before, in order to supply her needs. In this direction it must be remembered that she was, prior to the outbreak of war, the greatest importer of eggs and poultry in the world. If what is here suggested proves to be the case, German demand will profoundly influence the trade of the future.

As to Austria-Hungary, here again one can only surmise what is taking place, and it may be assumed that, although she is a producing country, exporting great quantities of eggs and poultry to Germany, her stock will be largely reduced, and that for a considerable time to come

she will not have a large surplus. We must bear in mind that the great egg country of the Dual Empire was Galicia, together with parts of Hungary. In the former fighting has been going on all the time, and probably we shall soon see that the case in Hungary. The same is probably true of Italy now that she has entered into the war. In this direction we must remember that Northern and Central Italy have been the great poultry sections of that country. With huge armies passing across the Plains of Lombardy poultry will be used up very rapidly.

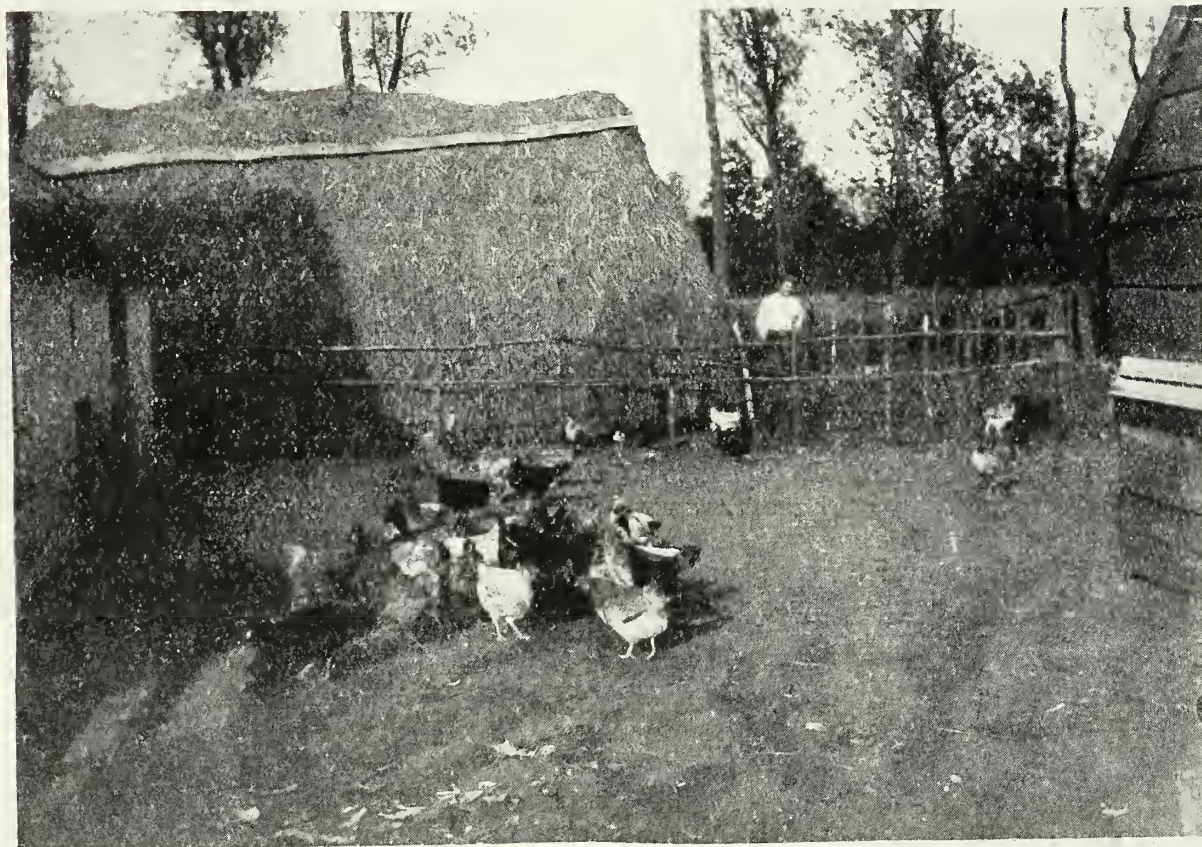
So far as the Balkan States are concerned, Serbia is probably largely denuded of her poultry,

on every hand are now almost entirely clear of them.

On the other hand, it would appear undoubtedly to be the case that the neutral countries, such as Denmark, Holland, and Sweden, have had a great impetus given to poultry-keeping owing to the huge demand, and I anticipate that such will be the case with some of the other countries that are not mixed up in this huge conflict.

HOW WE ARE AFFECTED.

With regard to our own country, the principal influence exerted up to the present time is felt by consumers rather than producers, owing to the



ON AN UP-TO-DATE FARM IN BUCKINGHAMSHIRE.

and how far Roumania and Bulgaria will be affected remains to be seen.

France has not been affected to anything like the same extent. With one or two exceptions those parts which have been invaded have not seen a great development of poultry-keeping. The departments which are free from the Germans are where fowls are kept to the greatest extent, and as these have been mainly in the hands of women that work is still going on.

With respect to Belgium we can realise that this unfortunate country will have to be entirely restocked. I was talking to a friend the other day who has come recently from Belgium, and he said the district where fowls were to be seen

advances that have been made in prices, more especially of eggs. This is almost entirely due to the great reduction in supplies from abroad, which shortage has enhanced the values to a very considerable extent. That has been the case ever since last August, and is now also being felt in connection with table-poultry. Whilst, undoubtedly, so far as the last-named are concerned, there has been a great decline in demand owing to the cessation of festivities, private and public, one can but feel that the recent rise in values of poultry has been mainly owing to a reduction of supplies. Many of those who have hitherto marketed up to this season of the year a considerable number of chickens have feared to breed to

anything like the same extent as in previous seasons, and especially so in view of the fact that prices for high-class poultry have been lower than in former years. Also the great advance in the values of food stuffs has had the same influence. Whether, as we all hope, when the Dardanelles are clear and Russian supplies can come through we shall see a big drop in food prices remains to be proved. That would be welcomed by everyone. It is indeed a good thing for poultry-keepers that, commensurately with the advance in the prices of feeding stuffs, there has been what is practically an equal increase in the returns from eggs, otherwise the fact, as stated, must have been disastrous in the extreme. I am afraid that, in spite of all that may be said, there are many people who always act in accordance with their fears and take the line that seems most easy. I have come across cases where poultry-keepers have reduced their stock of fowls to a very large extent, although this is more evident with what may be termed specialist plants than upon the ordinary farms of the country. With the latter, however, it has undoubtedly had a considerable influence. It may be hoped, however, that this has been checked and there will be a tendency to take longer views than has hitherto been the case. Whilst in all such questions as this the economic side has to be taken into account, there is a further factor which should never be lost sight of—namely, a responsibility to the nation at large. In some cases, probably the fact that other branches of production appear to offer more immediate returns than do poultry is checking that tendency to increase which should be encouraged to the full. The efforts put forth by the Board of Agriculture in this direction are most commendable, and we can only hope that throughout the length and breadth of the country each individual will do his share in food production.

WHEN THE WAR IS OVER.

Many sections of the community at the present time are possibly more prosperous than ever owing to the enormous demand for labour and the great numbers of soldiers in training who must be fed. We have, however, to remember that this condition of affairs will not always last, and that when peace comes there will probably be a reaction. It is said that the war is costing this country about two million pounds sterling per diem. That has to be paid for, and in order to overcome the great drainage of money, and to meet the charges which will be inseparable from payment of the cost, taxes must be higher in the future than they have ever been in the past. It is to be feared that with large numbers of people the purchasing power will be greatly reduced. We cannot have it both ways, and every penny that is taken in taxes means that it cannot be expended in other ways. If either a profes-

sional or working man has a limited income, and the percentage which is demanded for the maintenance of the Government is increased, the balance of income or wage left to be expended upon food and other requirements is correspondingly reduced. Therefore, whilst it cannot be expected that the prices of eggs and other classes of food will ever be as low as they have been in the past, demand must to some extent depend upon how far there will be a prevention of undue increases in values. All these are points which have to be considered, and it will be seen that the problem is complex in the extreme. It may be that the reduction in volume of supplies from other countries will be of benefit and help to prevent the bringing down of prices of eggs and poultry below what it would be possible to produce profitably, which will be to the benefit of the poultry-keeper, who has to be considered in this matter equally with every other section of the community.

THE ACTION TO TAKE.

At a time like this, whilst it is undesirable to be unduly optimistic, we must recognise facts as they are, and, further, what is stated above is not intended to discourage but rather to show the position as far as it can be realised. The main conclusion which we are bound to arrive at is that an increased supply is necessary. Some countries may be able to send us more than heretofore, but these are in the main small at the present time and likely to continue. A further point is, that when peace is declared, it is probable that Denmark, Holland, and Sweden will send to Germany to a greater extent than has been the case hitherto, more especially if the country named is able to offer higher prices. Further, considering that Russia is the adjoining country to Germany, I cannot but think that after the time named larger supplies will go to the Fatherland than has been the case in the past. If that be a true anticipation, combined with the fact that Austria-Hungary and Italy will have less to send out, a large increase of production in this country is imperatively demanded. Such increase must be systematic, not merely sporadic, nor must it be confined to a comparatively few individuals or to limited sections of the country. The decrease in the imports of eggs to the end of April this year was 20,000 tons below the corresponding period of 1914, and such volume means that a multitude of producers are affected. What I feel as of essential importance in this direction is that every effort should be put forth to cheapen the cost of production, in order, as far as possible, that supplies shall be within the reach of the great mass of our people. Already notice has been sent out by the Government suggesting that less meat should be eaten. When eggs can be bought

at reasonable prices these are one of the classes of food which would take the place of meat.

In this direction we shall, amongst other changes, have to be prepared for women taking an even more prominent part than they have done hitherto. In fact, as a means of livelihood, apart from every other influence, women will have to enter into spheres of work upon broader lines than has been the case hitherto. That is an aspect of the question which will demand further consideration, and can only be mentioned now. In the last issue of the *POULTRY RECORD* reference was

made to what can be done by smaller producers, supplemental to their other work, and in this way poultry may render a great service with return of our, possibly maimed, soldiers. If what we have suggested above be true all classes of the community—farmers, specialists, and backyarders—must do their share. I anticipate that next autumn eggs will be dearer than they have ever been before, partly because not many have been preserved owing to the high prices these have commanded during what are usually the cheaper months of the year.

THE CHICKEN EXPERIMENT AT MORDEN HALL.

A LITTLE more than a year ago we gave a brief description of the plant at Morden Hall, Cambridgeshire, where Mr. F. G. Paynter had transferred his operations from Haslington Hall, Cheshire, and was for the second year carrying out his experiments as to the profitableness of chicken-rearing upon small-holdings in a somewhat intensive manner. As previously pointed out, this experiment or demonstration, whichever it may be called, is dependent upon successful cultivation of the land, as that is necessary to utilise and exhaust the manure. Under the conditions suggested by this experiment anyone adopting similar methods would only use one-fourth of his holding for poultry each year, and there would be a regular rotation, moving from one section to another and cultivating those left free. As no attempt was made in connection with cultivation in Cheshire the experiment there was necessarily incomplete. We are glad to know that at Morden Hall Mr. Paynter is continuing his work for at least another year, and we hope that he may be permitted to do so to the full extent indicated above, so that whatever manurial benefits there are may be demonstrated in the cultivation of crops.

The year's operations at Morden Hall, which are very fully described in the *Journal of the Board of Agriculture*, were on similar lines, with exceptions, and the profit realised was a little in advance of Haslington Hall—namely, £45 11s. 4d. If to this is added interest on capital, £17 10s. 10d., and the amount paid for labour, £33 6s., that gives a total balance of £96 8s. 2d., against which there might be some help required, though with a smallholder that should not be the case. This amount, plus whatever profits can be made out of the rest of the holding, would undoubtedly be satisfactory to many who were prepared to take up poultry-keeping on these lines. It must also be mentioned that this experiment was for eleven months and not twelve.

Some changes were made by Mr. Paynter this year, notably in the securing of eggs for incubation. Eggs were obtained from a much better type of fowl, and higher prices had to be paid for them. In 1912-13 the average price of eggs purchased was 1s. 10½d. per dozen, whereas in 1913-14 the cost was 2s. 4¾d. per dozen. This is a somewhat high price, but would be fully justified by the better quality of birds obtained, and which was noticeable during our visit to Morden Hall some months ago,

In this second experiment the same difficulty was met with as at Haslington Hall—namely, the enormous number of deaths during the embryonic stage. In all 10,431 eggs were purchased, and 112 were broken in handling. Of these 1,828 were infertile, leaving 8,491, each of which had the possibility of producing a chicken. Out of these 4,285 hatched, leaving 4,206 dying in shell, or 49.54 per cent. of the fertile eggs. In addition 736 chickens which hatched died during the growing stage—that is, 17.17 per cent. Whatever the cause of this high mortality both during the embryonic and chicken stages, it is very serious indeed, and unless that could be remedied would be a fatal barrier to profitable undertaking of operations of this class. We must always expect that loss in both directions will be heavier in what may be termed the non-natural periods of the year, but a business of this kind cannot permanently stand leakages to this extent. That, combined with the egg cost of 5s. 9d. per dozen chicken hatched, is a very heavy handicap.

In 1912-13 the food cost worked out at 1s. 7d. per chicken marketed. In 1913-14 it was 1s. 4¾d., which is high, even though less than the previous year, and could be greatly reduced. If a smallholder was cultivating three-fourths of his land he could bring this down to 1s., which would make a good deal of difference. The average price at which the birds were sold did not vary much, being 2s. 10½d. each in 1912-13 and 2s. 10¾d. in the year under review.

Our own judgment is that this experiment has been carried out upon too big a scale, at any rate so far as smallholders are concerned. For one thing, there are very few of the latter who would be able to find a capital of nearly £400 for the poultry work alone. In addition there would be £100 at least required for the other part of the operations, and also for running the business. Such as would be able to find the amount probably might not be content with the returns already stated. It would, therefore, be much wiser if operations were upon a smaller scale and included cultivation. Under these circumstances it might be well to buy eggs, and by a little organisation that could be arranged within the immediate locality. The points, therefore, are that the loss by death in shell and death of chickens must be reduced. If a smallholder bought, say, 2,400 eggs, even paying the price named by Mr. Paynter in this experiment; if 66⅔ per cent. of chickens could be secured from these eggs—that is, 1,600 chickens were raised—a smallholder, even allow-

ing a proportion of the other expenses named in the balance-sheet issued by the Board of Agriculture, excepting in the case of labour, which would be supplied by himself and his family, and allowing 15 per cent. depreciation on plant, a profit could be made of upwards of £60 per annum, which would be satisfactory in the majority of cases. If, however, by growing food upon the holding the cost of feeding could be reduced to 1s. per bird, £31 13s. 4d. could be added to the profit—that is, assuming that sales were on the same basis.

A very interesting addition was made during the last year—namely, that a fattening plant was set up, and the birds were sold to this plant at the usual market rates. In all 1,080 birds were put up, and the average price secured was 4s. 5d. each, as against 2s. 10³/₄d. for lean birds. The increases in weight were considerable in many cases, ranging from slightly



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A BREEDING-PEN OF WHITE WYANDOTTES.
One of the most valuable breeds there is.

under 1lb. to over 1¹/₂lb. each. The profit made upon this part of the work was £4 0s. 4d., which, of course, was not very great. It is questionable whether an ordinary smallholder would be wise to touch this side of the work, although the presence of a fattening establishment in any district where birds were being reared by smallholders would always be of very great advantage.

Small Poultry Plants.

A writer in *Reynolds's Newspaper* says: "Large poultry farms only benefit one family; a large number of small cottage poultry farms would benefit a large number of families." There is, however, abundant room for both.

SIZE OF FLOCKS IN RELATION TO EGG-PRODUCTION.

IN addition to the laying competition at Harper Adams College, fully described in our last issue, two other contests have been carried out upon somewhat different lines, both of which were for twelve months. One of these was promoted by the Northern Utility Poultry Club at Burnley, and the other by the Utility Poultry Club at Sedlescombe, Sussex. Thus comparisons are specially interesting, because one was held in a southern agricultural county, and the other in the more rugged sections of East Lancashire, near to a great industrial centre.

The interesting point of these competitions is the division of small and large flocks respectively, which is a distinct advantage, each exhibitor entering for the competition eight birds, presumably bred about the same time and raised in the same manner, probably from the same stock. Four of these were put into what is called a small-house section, in which they were kept alone and provided with open runs. The other four were placed in a large-house section and grouped with five other lots, making twenty-four birds in all at Burnley and one hundred and forty-four at Sedlescombe. Thus we have an approach to what may be regarded as a very practical method. No one can for a single moment imagine that although we know hens are usually more productive as the flocks are reduced in size, it would pay commercially to divide poultry into lots of four or eight, as the cost of equipment and labour would be so high. Therefore the twenty-four or larger unit may be regarded as practical, whilst the other is merely for competitive purposes.

The question which is here raised is not so much which hens lay the greater number of eggs, but which sized flock will yield the higher margin of profit. In this direction cost of equipment and labour have to be taken into account, and that is where the specialist producer is at a great disadvantage. For instance, at Burnley the cost of equipment, so far as the figures indicate worked out at nearly £1 per inmate. If we allow 15 per cent. for depreciation, which is not excessive when we take into account the short life of wire netting, that means a charge of 3s. 6d. per bird per annum for this item alone. Upon that question much more might be said, but we leave it for the present.

Did space permit there are many observations about both these competitions which are of interest, but our attention must be given to one or two points. In the following table are placed side by side the comparative egg-production in large and small flocks at both these competitions, and the figures here given are well worthy of careful study:

Breed.	Burnley.			Sedlescombe.		
	No. of Birds.	Large Fl'ks.	Small Fl'ks.	No. of Birds.	Large Fl'ks.	Small Fl'ks.
White Leghorns	68	166.30	166.94	44	182.5	202.0
White Wyandottes	48	174.62	192.35	44	172.5	183.0
Buff Orpington	16	136.75	142.31	8	156.5	167.2
Anconas	16	181.81	173.06	—	—	—
Buff Rocks	4	140.25	163.75	8	148.0	188.7
Rhode Island Reds	4	121.00	167.75	4	158.5	194.5
Black Leghorns	—	—	—	4	184.0	172.7
White Orpington	—	—	—	8	164.7	164.0
Red Sussex	—	—	—	4	102.0	155.2
Heavy Breeds	72	164.65	178.25	76	162.6	179.0
Light Breeds	84	169.23	168.10	48	182.7	199.5

It will be seen, therefore, that at Burnley the heavy

breeds produced an average of 13.6 eggs more in the small than the larger house, and at Sedlescombe 16.4 more. At Burnley the light breeds produced 1.13 less in the small than in the larger flocks, and at Sedlescombe, where the flock was six times larger, 16.8 more. With the heavier breeds, therefore, it may be assumed they are more suitable to restricted conditions, but the evidence at Burnley would indicate that for the lighter breeds a greater amount of space is necessary to allow for fuller activity. The difference between the two is comparatively small, and when we take the cost of equipment and labour, which must be greater as division is increased, it is evident that for practical purposes the twenty-four or larger unit flocks would leave the greatest amount of profit.

Two conclusions press themselves as a result of studying these competitions, and it is well that the facts should be recognised. First, that wherever for competitive purposes it is necessary to limit the num-

Guelph College, Ontario.

A fine new poultry building has been erected at this institution, where Professor W. R. Graham is in charge, which will give great opportunities for extended work.

American Eggs.

Reports in the *Reliable Poultry Journal* state that the eggs which have been shipped from America to England since the war broke out are cold storage supplies, which explains the low price realised and the inferior quality.

Utilitarians in Derbyshire.

A new society has been formed called "The Burton and District Utility Poultry Association," of which the hon. sec. is Mr. John Bull, 284, Belvedere Road, Burton-on-Trent.



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REARING IN THE NATURAL WAY.

ber of birds in any one flock to four or eight, that is not and can never be profitable except to the back-yarder. It is surprising that in the reports of the competitions expressions are used which would seem to exalt the small flock. Unless the whole object is to merely go in for back-yarders the recommendations made should be clearly defined as applied only to poultry-keepers of that class. "Bird-Cage" poultry-keeping may be very interesting, but it is non-economic on a large scale. The second conclusion is derived from the balance-sheet issued in connection with the Burnley competition—namely, that a very substantial profit can be made where there is a good market for eggs and prices are satisfactory, even upon a limited space. Here, however, another factor should be taken into account—namely, what can be done one year upon a given area of land may not be possible continuously by reason of tainted soil.

Death of Mr. James Rankin.

The Father of the American Duck Industry, Mr. James Rankin, of Easton, Mass., passed away on December 13, 1914, at the ripe age of eighty-four years.

Auction Marts.

Where auction marts have been started for poultry in cheaper districts, these have in most cases rendered great service by affording a regular and certain outlet. The opening of one at Hereford recently evidently made an excellent start, and we wish it all success.

Ain or Aisne?

Even Olympus nods at time! One of our great dailies in its poultry column credited the Bresse fowl to the Aisne Department of France, whereas it should be the Ain, which is hundreds of miles south of the former.

SELECTIONS AND REVIEWS.

Meat for Fowls.

MUCH harm is frequently wrought by indiscriminate use of meat for poultry. Everything depends upon the conditions and what the other diet may be. "G. A. P.," writing in the *Smallholder*, says:

The most easily digested of all animal foods are the organs of digestion themselves. We must not forget that we derive the artificial aids to digestion, such as pepsin, from the stomachs of animals. So, as we might expect, we find that boiled sheep's paunches may be given with safety up to far above the ten per cent. which we usually allow of meat foods.

When paunches and entrails can be cheaply obtained no one could desire a better animal food; the only objection to them is the trouble and cost of cooking and the rather objectionable work of washing and cleaning. This food may also be given with safety to pigs.

The heads and legs of table chicken, when they can be freshly bought from a poulterer, also form, when cooked, an easily digested and suitable food. Of the birds sent to me for post mortem, many have died from heart or atrophied liver, from choking, from internal injury, and so on. These are given over to the pigs and suit them perfectly.

Mutton is also an excellent food for fowls, but should be well boiled, as one never knows what the sheep may have died from. The same may be said of cow beef, which, however, is not equal to mutton.

Horse flesh can often be cheaply purchased from a knacker's yard. At one time the horse slaughterers brought me all the accident cases. This meat was passed through a mincer to feed raw or boiled. The fowls soon sickened of it, however, and I was compelled to limit the quantity.

A little is far better than no animal food, but it must be used with great discretion. Pigs, so fed, soon get into a gross, scurfy condition, and it will cause young ones to scour very quickly.

The objection to all meat foods is that they go tainted so quickly in summer that there is serious risk of ptomaine poisoning. Also they are all a great deal of trouble.

Erroneous Ideas.

Mr. J. W. Hurst, writing in the *Field*, calls attention to the danger of adopting poultry-farming methods on the part of those whose knowledge is in inverse ratio to their experience, and says:

There is a certain amount of ineptitude in a proposal to occupy Belgian refugees in an extreme form of intensive poultry-farming, in face of Belgium's disastrous experience in this connection and the inconclusive character of work along intensive lines in this country. In contradistinction to this, however, may be set the inclusion of poultry-keeping in such a general scheme of small husbandry as that drawn up by the 1914 War Society, to enable disabled soldiers and sailors to augment their pensions, for which there is much to be said. Even so, those responsible for settling these or other men upon the land will find,

if they do not realise it already, that very erroneous ideas regarding the profitable possibilities of poultry-keeping continue to prevail, despite all that has been written and spoken by those who possess the requisite practical knowledge to entitle them to express opinions. If those who turn to poultry-keeping with profit-making intent can be induced to give it no more than its legitimate place in the general scheme of operations a considerable development in production may be brought about with satisfactory results all round; but if inflated ideas are encouraged, the results will be deplorable.

After dealing with personal observations and those of others, he continues:

Poultry-keeping for the production of marketable eggs and poultry is capable of being made a much more profitable undertaking than was once the case, but with all the advantages of accumulated improvements and experience the occupation cannot stand alone as a means of making a livelihood. That there are exceptions may be admitted, but they will hardly suffice for general encouragement. I was talking the other day to a man of unusual capabilities and experience in connection with egg-production, one who has achieved success and a wide reputation, and although he allowed that he would be able—in case of necessity—to make a living by keeping fowls alone, he was not prepared to accept the responsibility of directly encouraging others to attempt to do likewise. If we turn to the other main branch of utility production, table poultry, we find that Mr. Paynter—who has for two seasons been giving demonstrations of chicken-rearing under the direction of the Board of Agriculture—as a result of long experience and exceptional ability, advocates this production as a crop in a rotation. No one who is qualified to speak with sufficient authority recommends the keeping of fowls alone as a sole means of support.

More About Feeding.

It is not often we look to some papers for poultry suggestions, but "L. B.," writing in *Town Topics*, says something that is worth quotation:

It is on the question of feeding that most people fail, and far too much food is purchased by the average farmer than is actually necessary. Animal and vegetable foods are essential, and these the hen will find for herself in the shape of insects and the surrounding vegetation. The daily allowance per bird should not exceed four ounces, at least one of which she may be depended on to obtain in this way for herself. The remaining three must be supplied artificially, a yearly bulk of 68 lbs., and by allowing 70 lbs. a fair average will be obtained. Of this nearly half should consist of soft food, and of which half again may be "house-scrap," or principally vegetable and potato peelings. By compounding this with the cheaper meals and bran economical menus can be devised.

At the present war prices the grains present undoubted difficulty, and wheat, though an ideal food

and almost a necessity, is certainly out of the question. Substitution is a necessity. Here is one example :

Sorghum ³	at 30s. per sack (416 lbs.).
Sharps	at 20s. per sack (224 lbs.).
Maize	at 20s. per sack (240 lbs.).

70s.	880 lbs.
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This mixture alone comes out at under one penny per pound, and when bought in quantity so as to obtain the very greatest discount would bring the food question within the limit even at present prices.

Mortality in Chickens.

The liveability of chickens is of supreme importance to poultry-keepers, and the high range of mortality, more especially with artificially hatched and reared birds, is frequently disastrous in the extreme. If a preventive or remedy could be found, the outlook would be changed for the better. A writer in *Feathered World* suggests that :

A marked improvement may be brought about, and this quickly, if breeders will set about the task with a will—and deal with the subject honestly—in a very few seasons. No females should be employed for breeding until their second or third season. As a means of discovering their powers of fecundity, pullets should be trap-nested in their first season, and the birds with the best records put on one side for the following season's breeding. The idea is that second or third season birds' fecundity is not so pronounced, the drain upon the birds is not so severe, whilst fertilisation being demanded for fewer eggs, the resulting germ is essentially stronger, more hatchable, and consequently decidedly easier to rear. Some individual specimens in some strains are very fruitful in the second year, and in that case I should advise holding such birds over for a third season, since I am satisfied that the maximum of vigour in the produce cannot be secured if the bird is producing eggs inordinately.

My idea is, too, that to have any appreciable effect, and to work a lasting good, the system must be carried out in a more or less universal manner, and much depends upon our large breeders falling into line. Fortunately, or unfortunately, there is usually a big demand upon the resources of successful studs, and it is a temptation to use every available bird to meet requirements ; and whilst it is not dishonest in a sense, it is against the interests of the industry and the nation to spread throughout the country a race of fowls which will be delicate and unprofitable. I know one or two breeders who are quite alive to the matter, and those who will now take the trouble to adopt sensible measures of precaution in the manner outlined will assuredly in due time reap the reward for any care and labour it may entail.

What We Get for Nothing.

Economy in poultry-keeping is essential to success, and will be more so in days to come than has been the case hitherto. Captain Pierson Webber, writing in the *Weekly Dispatch*, rightly calls attention to various essential factors that are not purchasable, as these can be obtained free of all cost :

The importance of general management must never

be overlooked, and for its precise detail let every man interested study the many excellent words written on the subject, and through all that is read, bear in mind your own special circumstances and train the mind so that ready action may be able to apply the knowledge gained to definite advantage, for herein lies one of the greatest factors towards success—namely, to know what to do, to do it quickly, and then swing on to something else that needs attention.

Another great factor or principle, that must ever be cherished, is to make the very most of existing possibilities, and only purchase those necessities of stock, plant, and food-stuffs that cannot otherwise be obtained. And now that my readers have a clear appreciation of these two great principles, let us go a step further and grasp the important fact that in all our arrangements we must remember it is our aim and object to encourage the greatest amount of marketable produce for the least amount of labour and expense.

Now to achieve such a result it is absolutely essential that first we should keep the right sort of hen, and next that we should keep it the right sort of way, with the already mentioned principles in full force. The way to achieve such a result is to provide the simple necessities—never mind the luxuries—but ever remember the necessities. Take note that the initial letters of the first four of these necessities spell the word “wage”—water, air, grit, exercise, or more forcibly expressed as fresh water, fresh air, grit of the right kind, strong exercise ; and then comes the fifth necessity, namely, food—food of the right kind, given the right way, at the right time. But it is just waste of time and good money if in poultry-keeping we do not fully appreciate the importance of the first four necessities—*water, air, grit, and exercise*, for these four necessities support the digestion, and it is only through the digestion that we can hope to get value from the good food we pay for. Moreover, let us remember that we get these first four necessities practically for nothing, and in balance-sheet poultry profits we always make the very most of what we get for nothing ; so let us consider the matter for a moment, and see how we may best dispose such necessities.

Marauding Fowls.

Dirt is said to be matter in the wrong place. Fowls are often where they are not wanted. When a neighbour's birds trespass, and do damage, as is their nature to, it is very annoying, and drastic methods are natural, if inadvisable. Upon the point here raised a lawyer, writing in *Poultry*, made the following recommendations :

I often hear of farmers and others threatening to shoot poultry that trespass if their owners do not keep them at home, and occasionally one hears of this threat being carried into effect. Now there is no legal justification whatever for the shooting of trespassing poultry, and any man who does so is liable to pay damages for the poultry and can be brought to book by action in the County Court. The law provides a remedy for persons aggrieved by trespass and damage, and that remedy I have already explained in the early part of this article. If an aggrieved person chooses not to adopt the remedy the law provides him with, but prefers to take a line of his own, he must suffer the consequences,

It is, of course, often a difficult matter to assess the actual damage done by poultry who get into a garden or into a field sown with grain; but it is not impossible, and Courts of Justice always act upon the evidence before them. In such a matter it will usually be more difficult for the poultry-keeper to rebut the evidence of damage than it will be for the plaintiff to produce the bill and support it by evidence. My advice to poultry-keepers, therefore, is to keep within the limits of the law, and if their fowls trespass, to agree with their adversary while they are in the way with him lest the adversary bring them up before a County Court Judge who may have suffered from such depredations in his own garden, and who as a consequence may sympathise with the plaintiff, and putting a liberal interpretation upon the amount of damage alleged, will make an order for payment of damages and costs amounting to something very much larger than the amount which would have placated the adversary had it been offered to him in settlement at the outset of the dispute.

Reassuring Conclusions.

Since the discovery of the bacterial basis of so many diseases there has been a tendency to panic in many directions, and to credit as media almost everything, including hens. So far as typhoid is concerned, the *Medical Officer* says:

The problem of the carrier in various infectious diseases has long vexed the sanitarian who is bent on discovering every possible mode of transmission and every portal of entry for the pathogenic organisms. Human carriers of typhoid and diphtheria germs, themselves immune to attacks of the malady, are now watched for in nearly every community, and the danger which they represent as a latent source of infection is clearly recognised. Doubtless, many of these possibilities for spreading disease without the presence of detectable symptoms are still unrecognised. In the case of the *Bacillus typhosus*, it has been shown that some of the lower animals may, by experimental methods, be made typhoid carriers; and attention has lately been directed to such animals as might be expected to become carriers by reason of their environment or habits. Mitchell and Bloomer of the bacteriologic laboratory of the University of Missouri, have accordingly pointed out that the chicken is a domestic animal which might often come into contact with typhoid excreta. If given an opportunity this animal will readily partake of faeces, and the practice may be observed in a locality in which open closets abound. The droppings of chickens are so widely scattered that they could become a serious source of danger should they contain typhoid bacilli. Mitchell and Bloomer remark that the mechanical transference of typhoid bacilli on the feet and bill of a chicken does, without question, occur; but such transmission cannot be called "carrier transmission," which refers to the harboring and multiplication of the germs within the body. By various methods of administering *Bacillus typhosus*, either in stock cultures or in infected excreta, to hens, they have attempted to follow the fate of the micro-organism and particularly its possible re-appearance in the droppings of the fowls. It is gratifying to know that they have found that the hen is highly resistant to the typhoid organism. It not only

fails to take the disease, but apparently cannot be made a carrier by feeding with the bacilli or by intravenous inoculation.

As Others See Us.

We often learn more from what people think of us than of what we think of ourselves. Whilst it is undoubtedly true there is much to learn from others, there was an impression that good poultry are to be found in this country. Mme. Albert Jasper, writing in *Country Life*, thus speaks of our table poultry:

I knew that the English were excellent in the production of new breeds, sporting breeds, and fancy fowls. I knew that hitherto as breeders they were unequalled, and that to them we owe the superb breeds of Durhams, Shorthorns, Southdowns, Yorkshires, &c., which command the admiration of the whole world. I knew also that they had produced first-rate breeds of poultry. I knew that these crossings were judicious and excellent. But I knew also that to them the art of rapid production of a high average quality of table chickens was almost entirely unknown. That does not mean that in England there are not breeders and fatteners who are very competent; but there are also large numbers who produce absolutely inferior poultry, and it is they especially who need instruction in new methods. I knew that the English, because of their love of the open air, knew nothing of the art of raising poultry artificially produced according to our methods. Those methods are repulsive to their sporting tastes, their love of the open air and of muscular exercises. But such proclivities are not favourable to the production of a rapidly grown, artificially produced chicken, with young, white, soft and savoury meat. . . . My numerous visits to poultry farms have only confirmed me in my belief that, except in the case of certain rare and clever producers, English poultry is of an inferior quality. I was further confirmed in my opinion by my visit to the Central Market, where Mr. Charles E. Brooke, a charming gentleman, a very competent breeder, and a great poultry dealer, acted as my guide. The numerous inferior birds offered for sale showed me that the science is not yet widely understood in England. Though there were a few fine specimens, how many were there of a totally inferior quality!

Big Egg Sales.

The Derby Industrial Co-operative Society is one of the most important in the Midlands, having a large number of branches. In 1914 eggs were sold by it to the number of 3,694,960, an average of 123 per member, of which 80 per cent. were English and 20 per cent. imported.

Poultry Instructresses' Visit to Canada.

The North of Scotland Agricultural College has given two months' leave to Miss M'Kerrow and Miss Ireland, poultry instructresses, so that they may visit Canada with the object of seeing the methods of teaching adopted in the Dominion. If every teacher could do likewise the gain would be very great.

CURRENT POULTRY LITERATURE.

(Mention is here made of special articles appearing in home and foreign publications dealing with poultry keeping in its various branches.)

- JOURNAL OF THE BOARD OF AGRICULTURE.** London: 4, Whitehall Place.
The Sedlescombe Test, March, 1915.
Chicken Rearing at Morden Hall, 1913-14, April, 1915.
Bacterial Contents of Eggs, May, 1915.
- JOURNAL OF THE DEPARTMENT OF AGRICULTURE FOR IRELAND.** Dublin: E. Ponsonby, Ltd.
Winter Egg Records, April, 1915.
- AGRICULTURAL ECONOMIST.** London: 92, Long Acre, W.C.
Co-operative Egg-Production, by East Anglian, May, 1915.
- BAZAAR, EXCHANGE, AND MART.** London: Drury Lane, W.C.
Progressive Poultry Rearing, by J. W., April 30, 1915.
- COUNTRY LIFE.** London: Southampton Street, W.C.
Scientific Egg-Production, March 27, 1915.
The Flemish System of Poultry Rearing, by Madame Jasper, May 1, 1915, *illustrated, et seq.*
- DAILY NEWS.** London: Bouverie Street, E.C.
Chicken Profit, by Edward Brown, May 29, 1915, *illustrated.*
- EGGS.** Poole: Randolph Meech.
Science Jottings, by Oscar Smart, March 3, 1915, *et seq.*
- FARM AND HOME.** London: Farnival Street, E.C.
A Portable Poultry House, by Expert, March 31, 1915, *illustrated.*
Month Old Chickens, by E. T. Brown, May 5, 1915.
- FARMER AND STOCKBREEDER.** London: Essex Street, Strand, W.C.
Chicken Mortality in Brooders, by G. A. Palmer, March 22, 1915.
Starting Poultry Farming, by G. A. Palmer, March 29, 1915.
Grit for Poultry, by G. A. Palmer, May 24, 1915.
- FARM, FIELD, AND FIRESIDE.** London: Essex Street, Strand, W.C.
Raising Ducklings, March 26, 1915.
Sanitation for Poultry, by "South Stafford," April 2, 1915.
Rearing of Goslings, by "Aristocrat," April 16, 1915.
- FEATHERED WORLD.** London: 5, Arundel Street, Strand.
Death in the Dish, by Edward Brown, F.L.S., April 2, 1915.
How to Get Eggs for the House, by G. E. C. Morris, April 2, 1915, *illustrated.*
The 200-Egg Strain, by "Strain," April 9, 1915.
Exercise—External and Internal, by Edward Brown, F.L.S., April 16, 1915.
Poultry and Fruit Farming, by "Utilitus," April 23, 1915, *illustrated.*
Chicken Losses, by "Rightabout," April 23, 1915.
Dry Mash Feeding, by "Canny Scott," May 21, 1915.
- THE FIELD.** London: Bream's Buildings, W.C.
Turkey Production, March 20, 1915.
Local Centres, April 17, 1915.
Ducks for Laying, May 8, 1915.
- LIVERPOOL POST AND MERCURY.** Liverpool: Victoria Street.
Egg and Poultry Supply of Lancashire, Cheshire, and North Wales, March 1, 3, 8, 15, 22, and 29.
- POULTRY.** London: 10, Essex Street, Strand, W.C.
Trespassing Poultry, by "Lawyer," March 5, 1915.
Fowls for the Table, by S. C. Sharpe, March 12, 1915, *et seq.*
Chicken Raising, by T. W. Toovey, March 26, 1915, *et seq.*
- POULTRY WORLD.** London: 154, Fleet Street, E.C.
Raising Chickens for the Table, by J. G. E., May 7, 1915.
Why Poultry Farmers Should Dress their Land, by W. Thompson, May 28, 1915.
- THE SMALLHOLDER.** London: C. A. Pearson, Ltd.
Potatoes as Poultry Food, March 13, 1915.
The Poultry-Garden Holding, by E. T. Brown, April 3, 1915, *et seq.*
Poultry-Keeping and Market-Gardening, May 1, 1915.
Fattening Fowls, by a Sussex Fattener, May 8, 1915, *illustrated.*
Views on Poultry Housing, by G. Palmer, May 29, 1915.
- WEEKLY DISPATCH.** London: Carmelite House, E.C.
National Poultry Culture, by Captain Pierson-Webber, May 2, 1915, *et seq.*
- WESTERN MERCURY,** Plymouth.
Production of Eggs. A National Service, April 21, 1915.
- COUNTRY GENTLEMAN.** Philadelphia, U.S.A.: Curtis Pub. Co.
Hatching Wholesale, by C. L. Opperman, March 13, 1915, *illustrated.*
A Year of Turkey Raising, by M. M. Stearns, April 10, 1915, *illustrated.*
Does the Big Poultry Business Pay? by C. L. Opperman, May 22, 1915, *illustrated.*
Capons, by R. Schaff, May 29, 1915, *illustrated.*
- FARM POULTRY.** Boston, U.S.A.: 39, Sudbury Street.
Hatching Chicks with Hens, March 1, 1915, *illustrated.*
- RELIABLE POULTRY JOURNAL.** Quincy, Ill., U.S.A.
Eggs the Main Crop, by W. F. Fry, May, 1915, *illustrated.*
Government Work on Behalf of Poultry Culture, by Harry M. Lamon, May, 1915, *illustrated.*

Tapping Eggs.

In the North-Eastern counties of England at Easter a children's sport is to play with hard-boiled eggs by striking one shell against another, the owner of that which is unbroken receiving those which are thus cracked. Madame Christitch, writing in the *Daily Express*, tells that the same practice is common in Serbia. It would be of interest to discover the origin in each case.

Death of Mr. W. Bellamy.

The King's poulterer, who died last month, was not only a highly successful business man, but also contributed greatly to advancing the production of table-poultry in this country. He was on the committee of the table-poultry section of the Smithfield Show when first introduced, and at many shows gave demonstrations in dressing and trussing fowls. The fact deserves mention that his systems of preparing poultry have been generally taught all over the country.

Prizes for Poultry Students.

Upon the initiative of the Board of Agriculture and Fisheries, several counties have adopted schemes by which prizes are offered for the best kept poultry plants by pupils who have taken courses of instruction in this subject, promoted by the education committees. The object, as stated, is to induce the keeping of pure-bred stock and the adoption of improved methods. The competing plants will be regularly inspected.

HALF FATTENED CHICKENS.

By F. W. PARTON.

(THE UNIVERSITY, LEEDS.)

THE prices of eggs during the last three or four years have been very high, and, owing to the enormous demand, no difficulty has been experienced in disposing of them; consequently poultry-keepers have devoted all their energies in this direction. Of course one is perfectly right in endeavouring to meet the local demand, and if it be for eggs, then egg-production must have first consideration; if, on the other hand, table chickens are mostly in request, they must have prior claim. In many districts, especially in the Northern and Midland counties, table poultry are absolutely neglected. In these counties doubtless

In the first place it is necessary that chickens shall be hatched before the usual time of hatching layers, and continued a month later. Chickens will thus be ready for market when the highest prices are to be obtained. Too much importance cannot be placed upon early maturity, since the main object to strive after is to have the chickens ready for consumption at as early an age as possible. For this purpose there are very few breeds more suitable than the Faverolles. It is remarkable for the rapidity of its growth as a chicken, the flesh is excellent both in colour and texture, and it rests quite contentedly in confinement



BREEDING-PENS OF AYLESBURY DUCKS.

[Copyright.]

egg-production is the more lucrative, but there is no reason why table poultry should not receive more attention without interfering with the production of the more profitable egg. If one is going in for the very best class of table chickens, then it is absolutely imperative to keep one or other of the purely table breeds. When this is done, another breed must be kept for the egg supply, since there is no one breed that excels in both directions. There are, however, quite large numbers that are fairly good in meat properties, and are excellent layers, yet one rarely finds the reverse, that is, a really first-class table bird to be of much service as a layer. We are not, however, at the present time dealing with the first-grade table chicken, but rather would advocate the importance of adopting some system of preparation with the ordinary chicken, to improve its quality, and consequently its market value.

when the time for "penning" arrives. The soil has, however, a great influence in encouraging or retarding growth; a dry soil and a sheltered position will go far towards having the birds ready at a minimum age and cost. The right breeds for the purpose may, however, be kept, and the conditions generally may be all that are required, yet if the birds themselves do not receive proper treatment the foregoing is of small avail. Prices for the ordinary table chicken in summer and early autumn are lower than at any other time of the year, yet the demand, especially during the present month, is very great at sea-side and other holiday resorts, but it is most lamentable to observe the class of chicken that is offered for sale. We are well acquainted with the kind of chicken that finds its way to the market at this time of year, and we realise its possibilities as to the amount of meat it might carry. Many of these are large well-grown cockerels

of the Buff Orpington type, probably four or five months old, just the age when they should be at their very best, yet they are lean, and the legs, even at this early age, show the unmistakable "blue" appearance which is a certain indication that they ran about—probably along with the pullets—right up to the time of killing. Flesh dark, and in many cases smeared with blood, owing to a bad method of killing. Badly plucked, torn skin, and a full crop. Every one of these market objections might be prevented by a very simple method of preparation, so simple that it could be done by every poultry-keeper whether he only raises occasional chickens for his own household or whether he rears them in large or small quantities, for the public market or private custom. The secret of success in turning out the half-fattened chicken is in the final penning for three weeks or so before they are killed. Previously to this they have grown a fairly large frame, owing to the liberty they have had; consequently when they are kept in confinement for the

final preparation they can carry the necessary amount of extra flesh. They should be fastened up in a disused poultry-house, an open-fronted shed, or any other warm and comfortable place that can be spared for the purpose. During the time of captivity they should be fed entirely on soft food. In the fattening districts of this country—Surrey and Sussex—ground oats is the chief meal that is used. It is not, however, in every county that ground oats is to be had, and it is doubtful whether it would pay to send to the south-eastern counties for this meal for the half-fattening of the ordinary chicken. If not procurable, barley meal and middlings make an excellent substitute. They should be starved four-and-twenty-hours before they are killed, which will prevent that green colour of the crop and vent which so detracts from their appearance when offered for sale. This, together with careful plucking, will go a long way towards realising a price that will more than repay for the small amount of extra labour involved in preparation.

BOOKS AND PUBLICATIONS RECEIVED.

POULTRY-KEEPING. An Elementary Treatise Dealing with the Successful Management of Poultry, by Harry R. Lewis, B.Sc., Poultry Husbandman of the New Jersey Agricultural Experiment Station. Philadelphia and London: J. B. Lippincott Co., 365 pp., illustrated, \$2.

This well-arranged and excellent book, which is dedicated "to the Boys and Girls" of the United States, is a further indication of the position of poultry husbandry across the Atlantic, and the manner in which the subject is dealt with by those responsible for education and promotion of rural pursuits. Each chapter deals briefly yet clearly with the various branches which go to make up the whole industry. At the end what are called laboratory exercises, by which is meant practical work, are suggested, and a series of thought questions given based upon the lesson, together with references for extended study. These questions are specially helpful, tending to a clear understanding by compelling reconsideration of what has been learnt. This book, which is fully illustrated, is intended to be the basis for teaching in rural elementary schools, in which direction we must look for development to an extent not yet realised. Mr. Lewis can be heartily congratulated upon his work, the scheme of which has been well carried out.

FOURTEENTH ANNUAL REPORT OF THE DEPARTMENT OF AGRICULTURE FOR IRELAND, 1913-14. Dublin: E. Ponsonby, Ltd. 348 pp., illustrated, 2s. 6d.

Contains a full record of the year's operations. In the year named 84,463 settings of hen and duck eggs and 4,678 of goose eggs were distributed. In addition 66 dozen baby chicks were sent out from one station. The pupils receiving instruction numbered 1,801, 39 teachers were employed, and 18,966 visits were paid. Four apprentices were admitted at the Fattening Station. Attention is specially called to bad packing of eggs, due to damp straw, and the filling of boxes in open markets.

REPORT OF THE TWELVE MONTHS' EGG-LAYING COMPETITION HELD AT SEDLEScombe, SUSSEX, 1913-1914, by J. N. Leigh. London: Utility Poultry Club, 39 pp., illustrated.

The U.P.C. and Mr. J. N. Leigh are to be congratulated upon this report, which contains much matter deserving careful consideration. We are reaching a stage when the winning of medals and certificates and the abnormal performances of individual hens are not the supreme factors. These are incidental. Other lessons are to be derived of greater importance. The chief value of this report is

found in the observations recorded. Mr. Leigh calls attention to many points, such as the dangers of the competitive element, the evident signs of weakness in stock, the frequency of ovarian troubles, the tendency to thin shells, the high average of mortality, and many other questions which are compelling attention. We commend careful study of this report not only to those who compete, but poultry-keepers generally, as it is suggestive far beyond the immediate, and the best of its kind yet issued, in that it is essentially constructive.

SUGGESTIONS TO ALLOTMENT HOLDERS FOR GENERAL CROPPING DURING THE SPRING AND SUMMER MONTHS. Special Leaflet No. 26 of the Board of Agriculture and Fisheries, 4 pp.

In view of the fact that for permanency of operations, as well as adequate profit, cultivation and poultry-keeping must be in unison, this leaflet is specially timely, and can be commended for wide distribution.

YEAR BOOK OF THE SUSSEX CLUB OF AMERICA. Swanton, Ohio, U.S.A.: F. L. Platt, 46 pp., illustrated.

Contains several articles by American breeders showing the great interest now taken in this famous English breed. One of these advocates the egg type, which would be antagonistic to the real quality of Sussex.

HAANDBOG I FJIRKRÆAVL, af Konsulent W. A. Kock. Parts 8 to 12, with Title and Index. Copenhagen: Det Schonbergske Forlag, 1 krone each.

Part No. 12 completes this work, which is the most complete issued in Denmark, embracing as it does all branches of the subject. It is excellently illustrated and printed.

MONTHLY BULLETIN OF ECONOMIC AND SOCIAL INTELLIGENCE. Rome: International Institute of Agriculture. Year VI., No. 1, January, 1915; No. 2, February, 1915; No. 3, March, 1915; No. 4, April, 1915.

No. 3 contains an interesting account of Co-operative Egg Societies in the Grand Duchy of Oldenburg up to the year 1913.

MONTHLY BULLETIN OF AGRICULTURAL INTELLIGENCE AND PLANT DISEASES. Rome: International Institute of Agriculture. Year VI., No. 1, January, 1915; No. 2, February, 1915.

EXPERIMENT STATION RECORD. Washington, U.S.A.: Department of Agriculture. Vol. XXXII., No. 1, January, 1915; No. 2, February, 1915; No. 3, March, 1915; Abstract No., May, 1915.

POULTRY COOKERY.

SPRING CHICKENS AND DUCKLINGS.

ROAST CHICKENS.—Young spring chickens are, as a rule, roasted without any stuffing, as their flavour is considered sufficiently delicious of itself; but that, of course, is entirely a matter of individual taste. Great care must be taken in preparing the birds, the flesh being so tender that it very easily tears. When the inside has been wiped thoroughly clean, put in an ounce of fresh butter and truss the birds firmly. Cover the breasts with well-greased paper and cook either before a clear hot fire or in a brisk oven, being careful to baste very liberally and frequently during the process. From thirty to thirty-five minutes will be ample time to allow for cooking. When done enough, drain the birds carefully, remove all fastenings, and serve on a bed of fresh crisp watercress. If sauce is required, a selection may be made from the following: Mushroom, egg, bread, or chestnut, all of which are suitable.

CHICKENS STEWED IN PEAS.—Prepare a couple of nice plump young birds and cut them into neat joints. Put these into a stewpan with a bunch of fresh herbs, an ounce of butter, a light seasoning of salt and pepper, and a quart of fine fresh green peas, measured, of course, after being shelled. Pour over the whole half a pint of good white stock, cover the pan very closely, and let the contents stew just as gently as possible until the flesh is quite tender and the peas soft, without being at all broken. Mix an ounce of fresh butter with a teaspoonful of flour and a few drops of lemon juice. Then put it into the stewpan and shake the latter gently about until the peas are nicely coated and the butter entirely dissolved. When ready, serve the birds in the centre of a hot dish, with the peas forming a border round about. This dish is not often served with sauce of any kind, but some people consider a little well-made parsley-butter sauce a decided improvement, so that it remains entirely an open question.

A Dainty Fricassee.—If the birds are very small cut them in quarters, but if a good size they are best cut in joints. Put these to soak for five minutes in milk-and-water, then drain and place them in a stewpan with a bunch of savoury herbs, an onion stuck with four cloves, a seasoning of salt and pepper, and sufficient warm water to entirely cover the whole. When the water boils, remove the scum and draw the pan on one side. Let the contents simmer very slowly and evenly until the meat is tender, then dish it up neatly on a bed of some skilfully-dressed vegetable. Pour over and round some well-made mushroom, tomato, or maitre d'hotel sauce. Garnish the edge of the dish with sprigs of parsley and slices of fresh lemon, and serve very hot.

ROAST DUCKLINGS.—Choose two small plump birds, and if they have to be prepared at home proceed to do so in the following manner: Pluck, singe, and empty them. Scald and skin the feet and twist them round on to the back of the bird. Then cut off the head, neck, and pinions, and skewer firmly, giving to the breast as plump and full an appearance as possible. Have ready a very dainty forcemeat, composed of half a pound of parboiled onions chopped very finely, four tablespoonfuls of sifted breadcrumbs, a dessertspoonful

of powdered sage, the livers of the birds parboiled and chopped small, and a seasoning to taste of salt and pepper. These quantities can be increased if necessary, but they are generally found sufficient. After the birds are stuffed and trussed rub them all over with butter of pure beef dripping and roast them before a clear, moderately hot fire or in a well-heated oven. Baste frequently, and when about half done dredge a little flour over to give the birds a nice frothy appearance. Serve neatly and as hot as possible, with good brown gravy and apple sauce.

BRAISED DUCKLINGS.—Prepare and truss the birds in the usual manner. Then fill them with mashed potatoes, which have first been rubbed through a sieve, then mixed with egg yolks, powdered herbs, and well seasoned with salt and pepper. Line a stewpan with slices of prime bacon, then add a thinly sliced carrot, a dozen button onions previously browned in a little butter over a hot fire, and a few thin slices of fresh lemon. Lay the ducklings on top, moisten with a glass or two of Burgundy, and put the pan in a very hot oven for a few minutes to slightly brown the birds, after which take out the pan, add a little more wine, and braise gently over the fire, or in the oven. About ten minutes before the cooking is finished add half a pint of rich brown sauce, and when done enough place the ducklings on a hot dish and arrange the onions round about. Boil up the sauce in the pan, strain it carefully, remove any fat there may be, and add more seasoning if required. Then pour a little over the birds and send the rest to table in a tureen.

SALMI OF DUCKLINGS.—Prepare and roast the ducklings in the usual way, but without stuffing, and when nearly done enough cut them up neatly, either into joints, or quarters, according to size. Have ready some very rich creamy brown sauce, highly seasoned and pleasantly flavoured with a glass of port wine, and lay the ducklings into this. Simmer gently for a quarter of an hour, then arrange the birds in neat order on a border of well-mashed and seasoned potatoes. Fill in the centre with a mound of green peas, spoon the sauce very carefully over the birds, and serve the whole very hot.

A Scottish Demonstration.

Under the auspices of the Aberdeen College of Agriculture, a demonstration as to poultry-keeping upon a small holding has been conducted by Mr. R. Milne, Cockley, Kincardineshire, upon which seventy-two laying hens were kept. In the twelve months 8,838 eggs were produced, which sold for £44 3s. 3d., an average of 122 per annum, and the food cost was £18 3s. 5d.—that is, five shillings per head per annum. Fowls were sold to the value of £8, and the total margin was £34, which might be duplicated as a supplemental part of the operations in thousands of cases.

Devizes and District Poultry Society.

This well-managed egg centre has had another successful year. The gross profit made was £432 7s. 8d., and bonuses were paid to the members ranging from a penny to threepence per dozen in accordance with the season of the year.

A NEW DEPARTURE IN YORKSHIRE.

TO afford opportunities for practical and more extended teaching in the county of Yorkshire, where so much attention has been devoted to the encouragement of industrial poultry-keeping, courses of practical instruction have been organised, which is being followed by a period of supervision of the poultry runs in charge of the pupils who attend the courses. In our opinion, this is perhaps the most valuable part of the scheme, since the pupils are under the direct supervision of Mr. Fred Parton for a period of twelve months. This ensures the putting into practice of what they have been taught.

The first of these special courses has just concluded at Darley, where it has proved a great success. Eleven students attended, all of whom were intimately connected with farming. We had an opportunity of visiting the course, and were greatly impressed with the keenness of the students and the excellence of the instruction. Mr. Parton, who has been lecturing in the county for upwards of twenty years, was in charge of the course.

A second course started on the 7th inst. at Cotherstone, with the full complement of students—namely, twelve. Cotherstone is the centre of a good poultry district, and great interest has been evinced by the farmers in the neighbourhood.

These courses are run by the University of Leeds in conjunction with the Board of Agriculture and Fisheries, and we are convinced that great benefit will be derived by those attending.

800 WHITE LEGHORN HENS FOR SALE.

These birds were bred from the same stock that produced the birds I entered for the Utility Poultry Club's Laying Competition, at Sedlescombe, 1914, and which averaged 212 eggs each in that Competition.

PRICE 5s. & 7s. 6d. EACH

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OUR BOOK MARKET.

Any of the following books will be supplied at the prices named. Cash must always accompany orders.

Amateur Poultry-Keeper. By W. M. ELKINGTON. 120 pages. Fifteen illustrations. Price, 1/2 post free.

Incubators and their Management. By J. H. SUTCLIFFE. Fifth Edition. Illustrated. Price, post free, 1/2.

Lett's Poultry-Keeper's Account Book. Edited by LEWIS WRIGHT. Cr. 8vo. Post free in the United Kingdom, the Colonies, and foreign countries, 2/8.

Poultry and Egg Raising at Home. By W. M. ELKINGTON. Illustrated. Price, post free, 1/2.

Poultry Culture for Profit. By Rev. T. W. STURGES, M.A. Third Edition. Cr. 8vo, 134 pages. Fully illustrated. Post free in the United Kingdom, the Colonies, and foreign countries, paper covers, 1/3; cloth, 1/9.

Poultry Fattening. By EDWARD BROWN, F.L.S., Fifteen illustrations, 120 pages. Price, 1/2 post free.

Poultry for Prizes and Profit. By JAMES LONG. New Edition. Revised by W. M. ELKINGTON. Illustrated. Post free 6/4 in the United Kingdom; in the Colonies and abroad, 7/6.

Poultry-Keeping as an Industry for Farmers and Cottagers. By EDWARD BROWN, F.L.S., Secretary of the National Poultry Organisation Society. Sixth Edition. 4to, 206 pages, fully illustrated. Post free in the United Kingdom, 6/6; 6/9 to the Colonies and foreign countries.

Progressive Poultry Culture. By ARTHUR A. BRIGHAM, B.S., Ph.D. Illustrated. 300 pages. Post free, 6/6.

The Practical Poultry-Keeper. By LEWIS WRIGHT. Cr. 8vo, 320 pages, with eight coloured plates and other illustrations. Post free in the United Kingdom, 3/10; 4/- to the Colonies and foreign countries.

Races of Domestic Poultry. By EDWARD BROWN, F.L.S., Secretary of the National Poultry Organisation Society. 4to, 234 pages, with chapters on breeding, fully illustrated. Post free in the United Kingdom, 6/6; 6/9 to the Colonies and foreign countries.

Record Poultry Book. Nine illustrations. Written by Experts. Post free, 1½d.

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Report on the Poultry Industry in America. By EDWARD BROWN, F.L.S. Third Edition. Fully illustrated. Price, post free, 1/3.

Report on the Poultry Industry in Denmark and Sweden. By EDWARD BROWN, F.L.S. Fully illustrated. Price, post free, 1/3.

The New Book of Poultry. By LEWIS WRIGHT. Demy 4to, 600 pages, with many coloured plates, &c. Post free in the United Kingdom, 21/10; 24/- to the Colonies and foreign countries.

The Poultry Manual. By Rev. T. W. STURGES, M.A. 600 pages, 52 illustrations. Price, 6/6 post free.

Report on the Second National Poultry Conference, 1907. Edited by EDWARD BROWN, F.L.S. 382 pages, with nine illustrations. Post free in the United Kingdom, 5/6; in the Colonies and foreign countries, 6/-.

The ILLUSTRATED POULTRY RECORD,
Tudor House, Tudor Street, E.C.

ECONOMY IN FEEDING.

To the Editor, ILLUSTRATED POULTRY RECORD.

SIR,—At this present crisis, when all kinds of feeding stuffs are so dear, it behoves every poultry-keeper to try to reduce the cost of feeding fowls by utilising some of the by-products from the breweries, as suggested by the Board of Agriculture and Fisheries.

It is a well-known fact that foods containing malt in any form, whether it be malt culms (the sprouts that are brushed off the malt as it comes from the kilns), dried grains that remain after they have been in the brewer's vat, or the dried yeast that has been produced during the time the beer was fermenting—all these contain a far larger amount of albuminoids, the flesh-formers, than are found in any cereals in their natural state. A combination of these by-products blended in well-balanced proportions forms a basis to which may be added either bran, middlings, or any other kind of meal which may be fed judiciously according to the condition of the food and what is required, whether it is eggs or flesh. It is necessary to know approximately the chemical analysis of the different foods so that the feeding ratio can be ascertained.

The three main factors which control success in poultry-rearing are good housing, cleanliness, and the right system of feeding. Of these three the most important is feeding, for no matter how good your stock may be you cannot bring the birds to their best condition as layers or for the table unless they have the food they like and can fully digest and assimilate.

Careful experiments with various kinds of foods have proved that the percentages of constituents in an ideal food approximate:

- 16 per cent. of flesh-formers.
- 8 per cent. of fat or oil.
- 50 per cent. of starch, &c.
- 10 per cent. fibre.
- 4 per cent. ash.
- 12 per cent. water (heat and energy producers).

When there is a heavy strain on a hen's system in egg-laying an increased quantity of flesh-formers and fats must be given, while in cold weather the supply of starch and fats must be increased.

The flesh-formers go to supply the waste of actual tissues and to build up the frame, to form feathers, bone, muscle, and the albumen (the white of the egg), fat or oil being required for the yolk, and starch, which keeps all the organs in working order. If there is deficiency or excess of either of these there must

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